



# Gestore dei Servizi Energetici

*LUXEMBOURG*

*16<sup>th</sup> September 2011*

[www.gse.it](http://www.gse.it)

- **GSE – Energy Services Operator: main activities and RES development**
- **GSE’s promotion of RES industry: *CORRENTE***
- **Italian Renewable energy current situation**
- **RES support mechanisms**



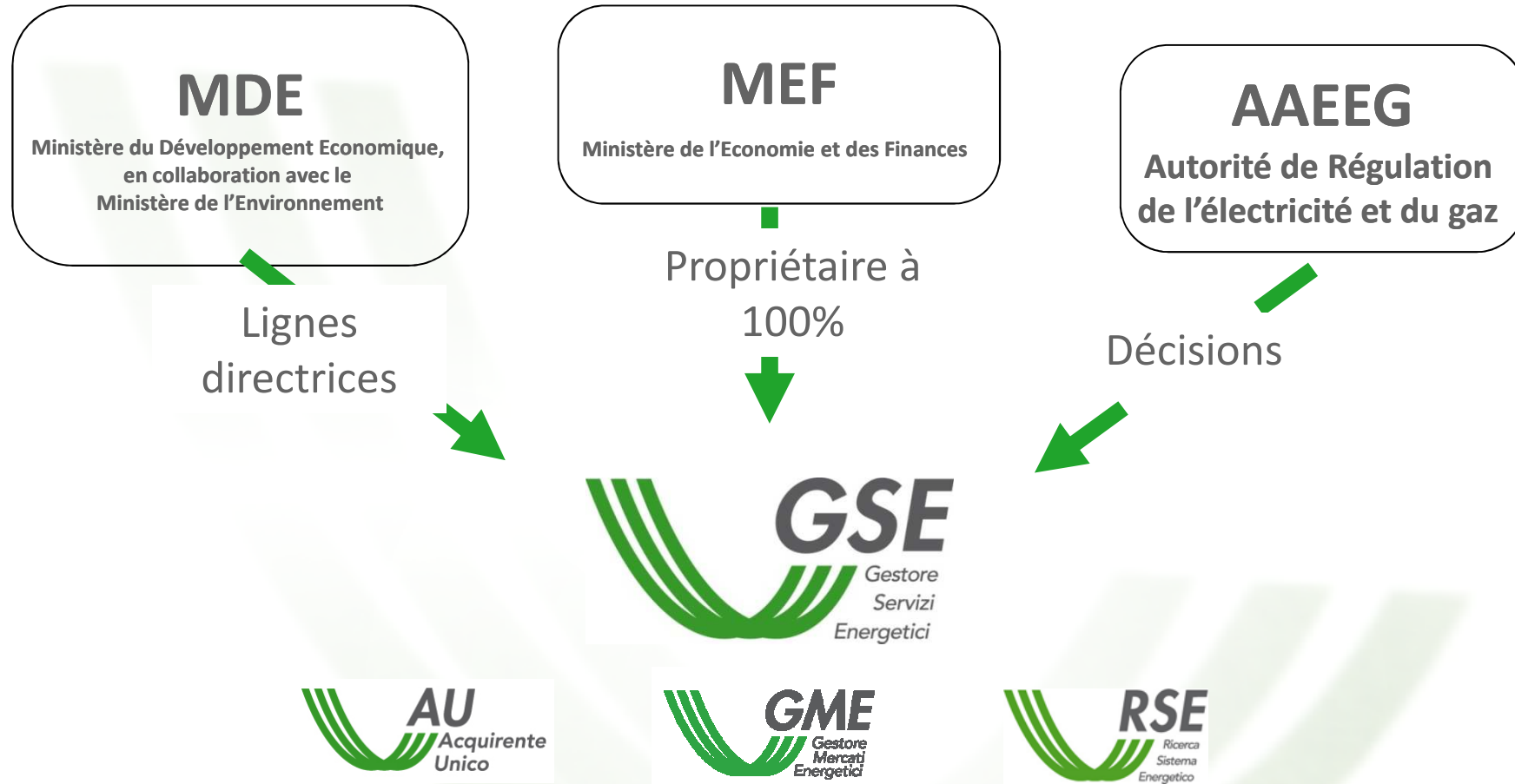
# **GSE: Conception et activités principales**

## **M. Fabrizio Tomada**

*Grand-Duché de Luxembourg*

*16 septembre 2011*

*[www.gse.it](http://www.gse.it)*



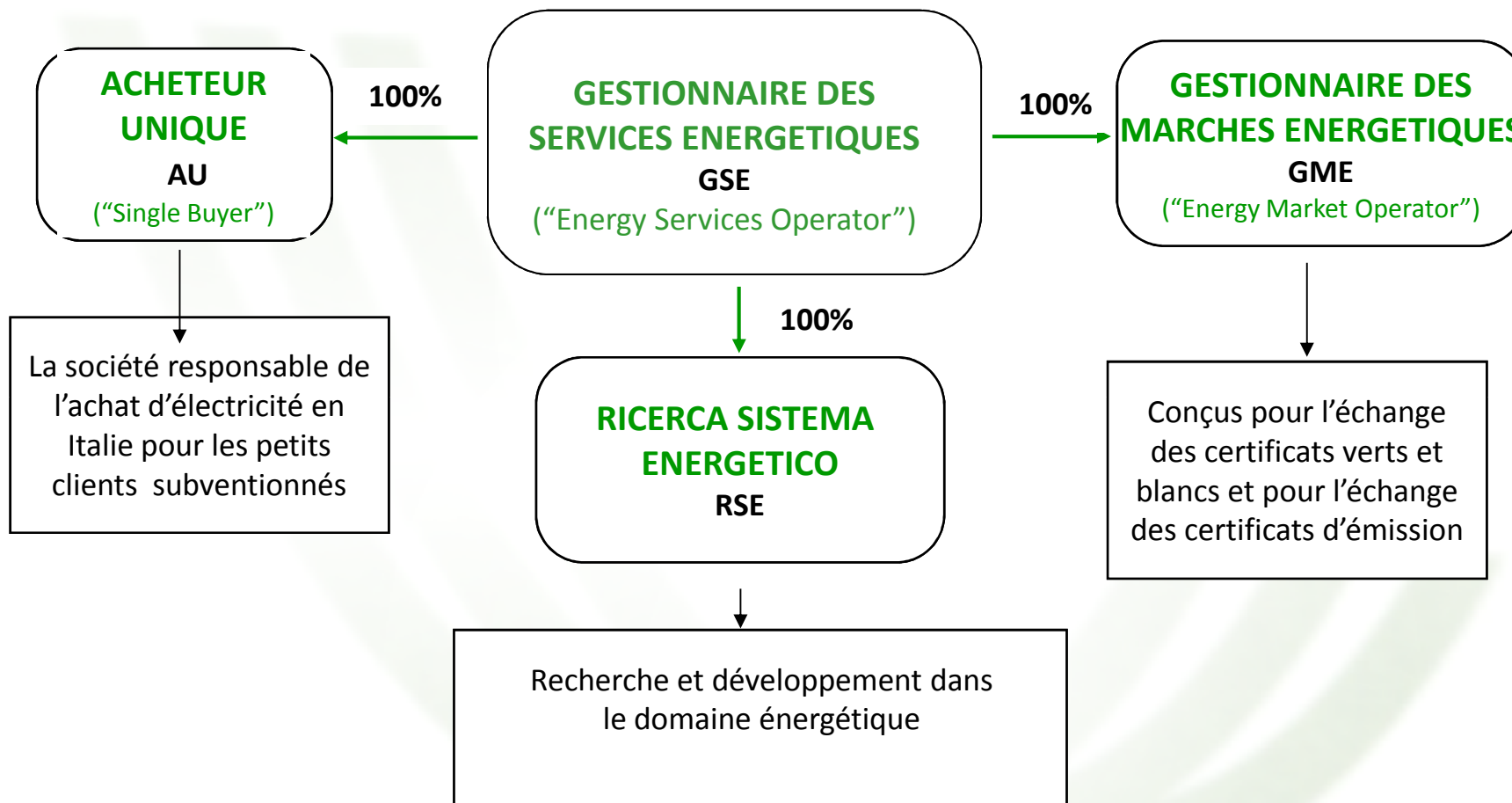
**MISSION**

*“GSE assure la promotion du développement des énergies renouvelables en Italie, par le soutien et l’organisation de campagnes de sensibilisation portant sur l’utilisation responsable et écologiquement viable de l’électricité.”*

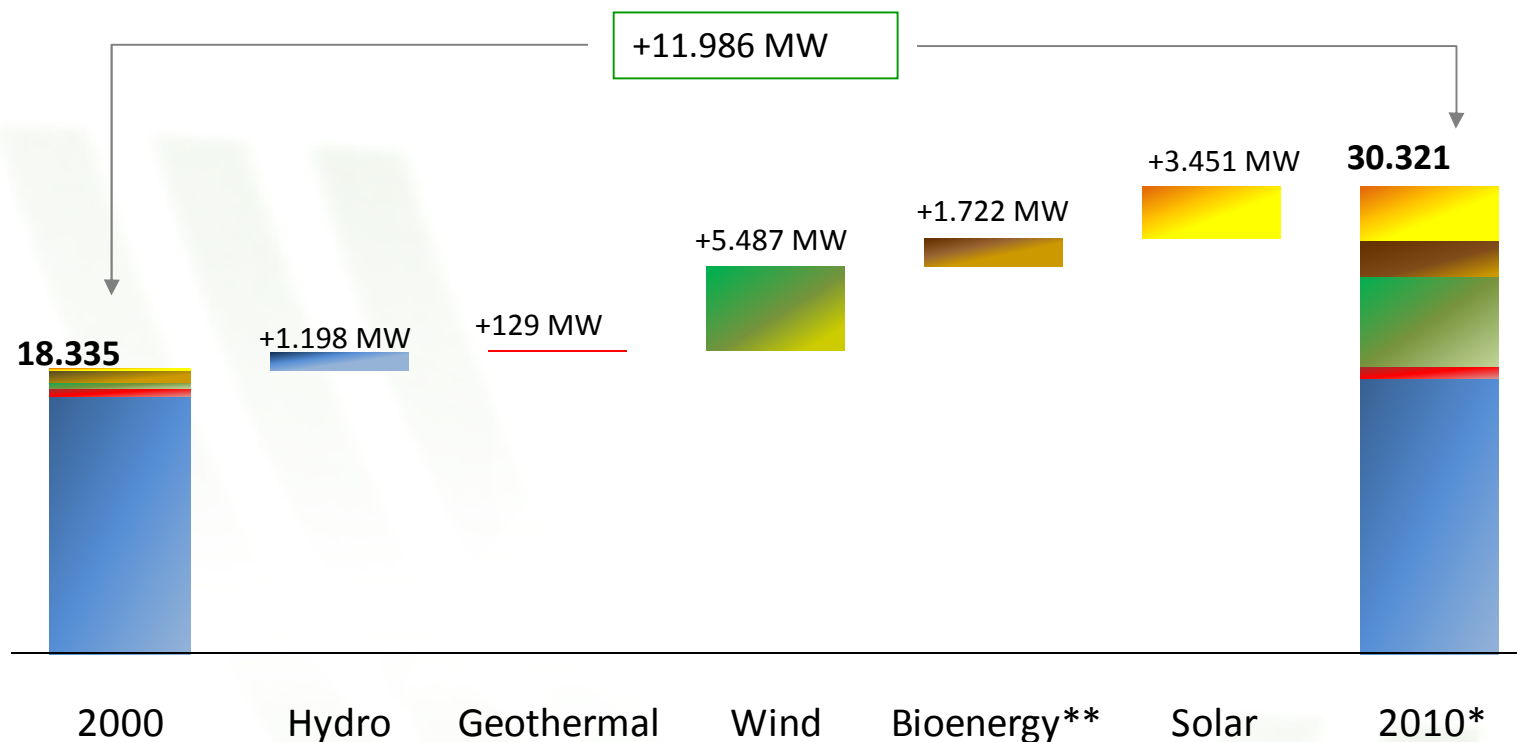
- 1. Mesures de promotion et d'incitation destinées aux énergies renouvelables**
  - I. Délivrance de Certificats Verts et surveillance du respect des obligations y afférentes par les producteurs et les importateurs**
  - II. Gestion des aides financières à la production d'électricité dans les centrales solaires photovoltaïques et thermodynamiques ( Tarif rachat énergie "Conto Energia")**
  - III. Gestion du système de Tarif rachat énergie, un tarif général incluant aussi bien la part de l'aide financière que la compensation pour la vente d'énergie, au net de l'auto-consommation.**
- 2. Services Energétiques (Achat d'électricité dédié, mesurage net)**
  - I. Gestion du "système de mesurage net" pour l'électricité produite à partir de sources renouvelables dans des centrales jusqu'à 200 kW ou dans des centrales HE-CHP**
  - II. Mise sur le marché de l'électricité produite à partir de sources renouvelables par les producteurs qui ont confié la vente d'énergie à GSE (Achat d'électricité dédié)**
- 3. Gestion et réalisation des inspections techniques dans les centrales à énergie renouvelable.**
- 4. Qualification des centrales à énergie renouvelable (IAFR) et des centrales de co-génération**
- 5. Adhésion aux associations internationales (IEA, OME, IRENA)**
- 6. Etudes et activités de conseil pour l'Administration Publique**



## GSE est la maison mère de trois filiales



L'évolution de la capacité des centrales à énergie renouvelable de 2000 à 2010

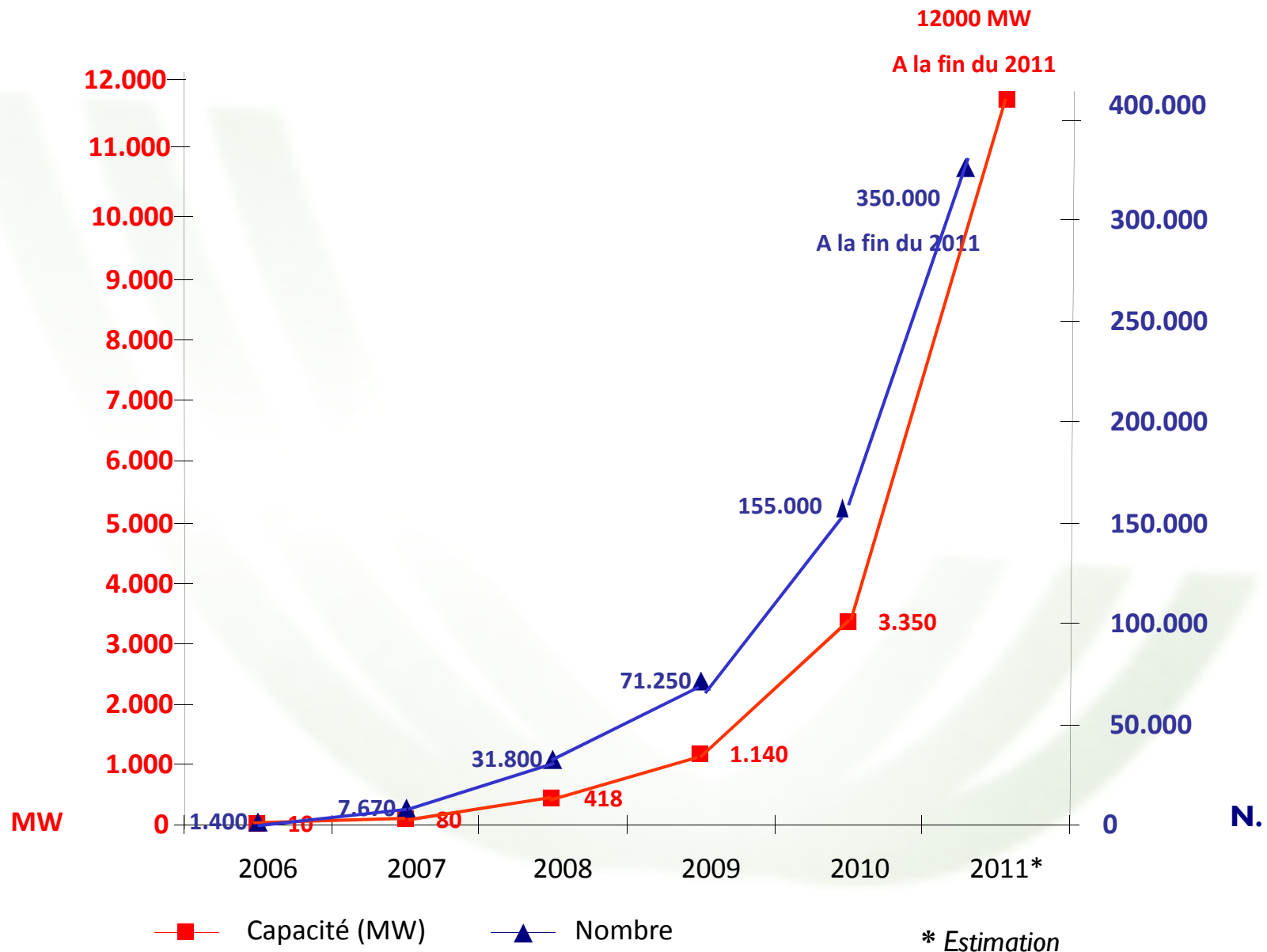


**Les dernières estimations indiquent une augmentation de la capacité totale installée, qui est passée de 18.335 MW en 2000 à 30.321 MW en 2010 (+11.986 MW). Les fermes éoliennes et les centrales solaires représentent respectivement 48% (5.487 MW) et 30% (3.651 MW) de la croissance totale.**

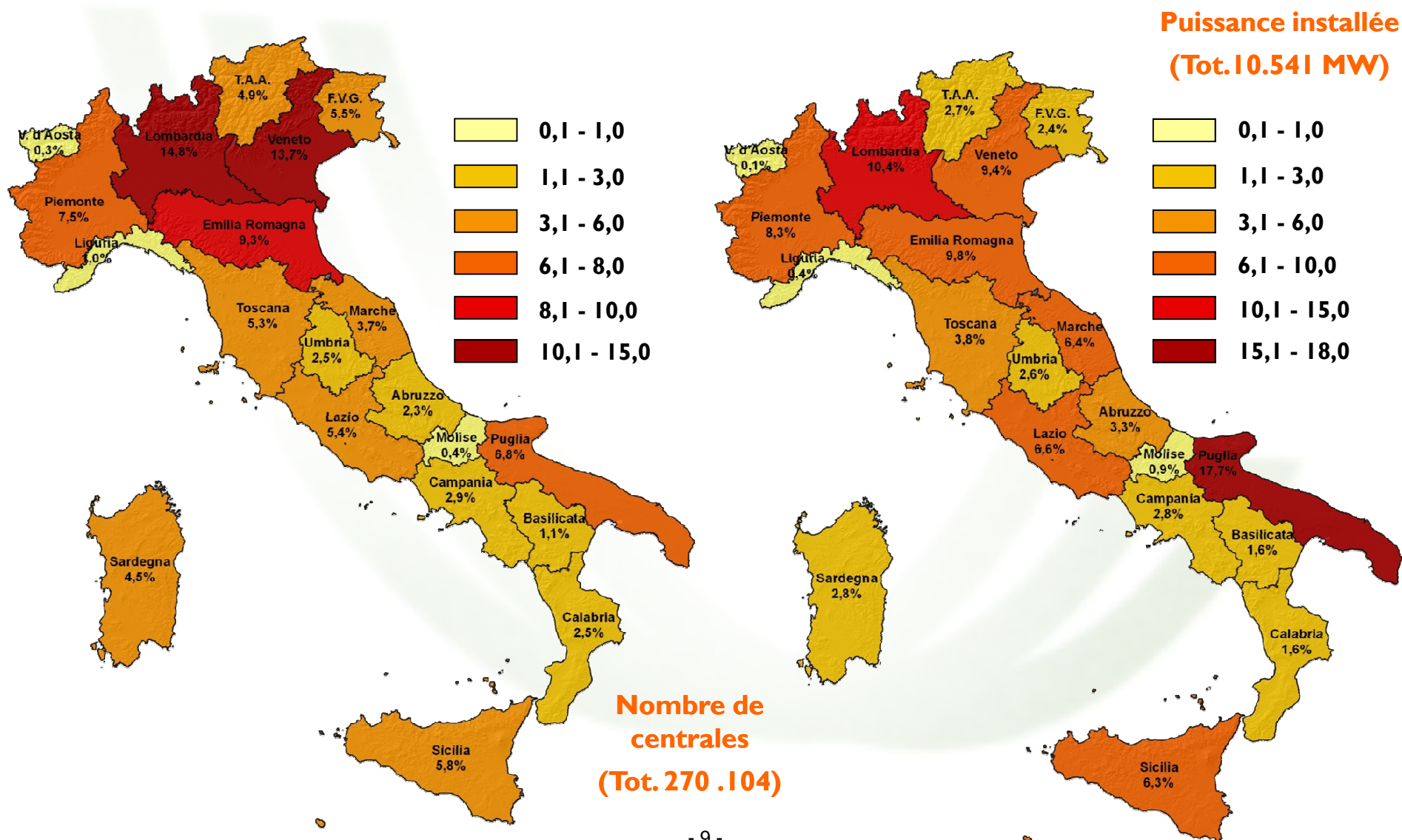
\* Données recueillies par Terna-GSE

\*\* Le terme bioénergie indique la biomasse, les biodéchets, les biogaz et les bioliquides

**GSE – Gestionnaire des Services Energétiques** Capacité photovoltaïque installée en Italie  
 au 31 aout 2011 10.000 Mw 270.00 centrales



Centrales en service par région et par classe de puissance à la date du 31 août à la fin du 2011 en Italie puissance totale installée de 12.000 Mw produits par environ 350.000 centrales



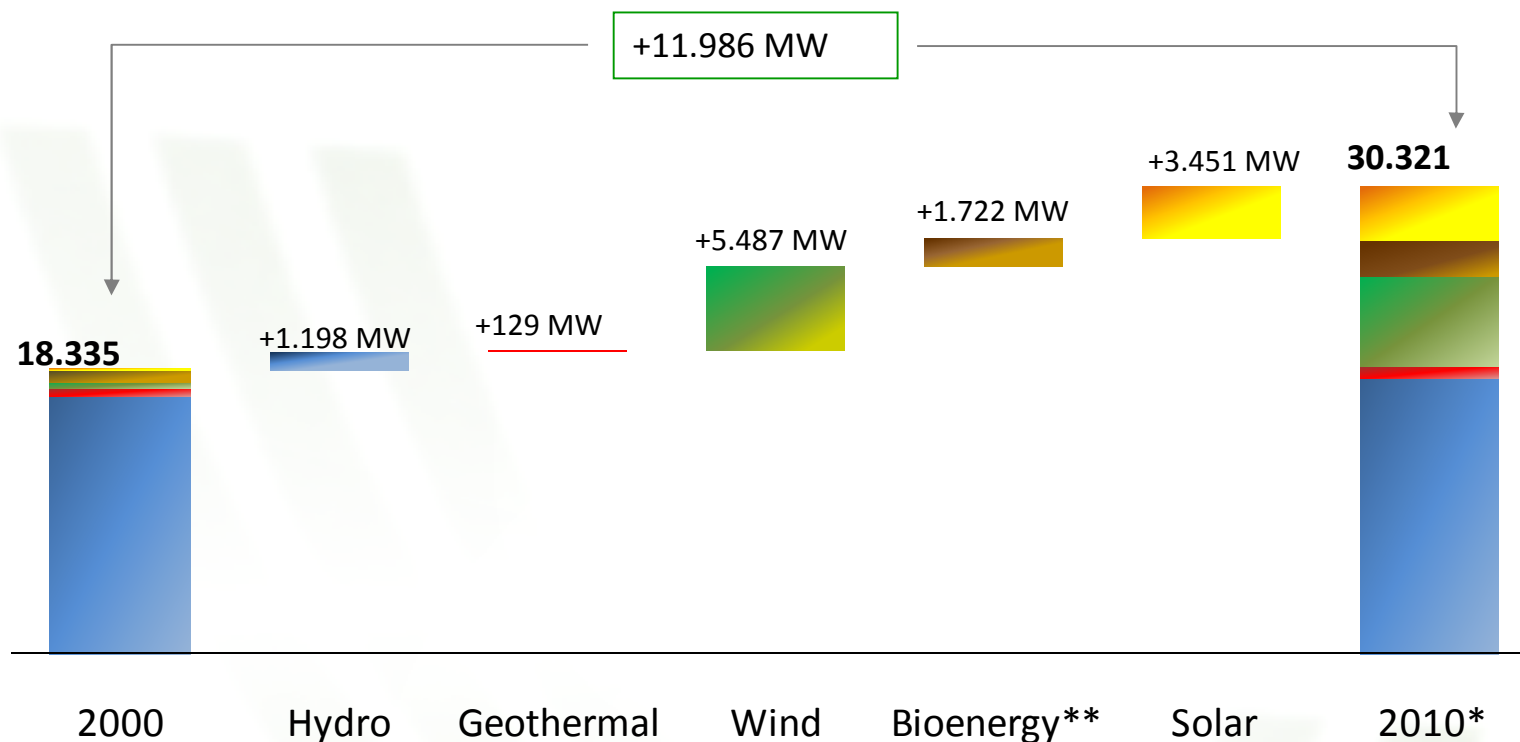
**1.685 Mw produits par 17.812 centrales . Pouilles detienne le primauté d'être la region qui ha la plus grande quantité de puissance installé.La Lombardie reste la region avec le plus grand nombre de centrales en services**

Centrales en service par région et par classe de puissance à la date du 31 août à la fin du 2011 en Italie puissance totale installé de 12.000 Mw produits par environ 350.000

REGION	CLASSE 1 : 1 kW ≤ P ≤ 20 kW		CLASSE 2: 20 kW < P ≤ 200 kW		CLASSE 3: 200 kW < P ≤ 1000 kW		CLASSE 4: P > 1000 kW		TOTAL	
	Nombre	Puissance (MW)	Nombre	Puissance (MW)	Nombre	Puissance (MW)	Nombre	Puissance (MW)	Nombre	Puissance (MW)
POUILLES	15.235	89,7	1.222	82,3	1.285	1.133,3	70	380,1	17.812	1.685,4
LOMBARDIE	33.487	190,0	4.648	369,5	624	341,5	51	91,8	38.810	992,8
EMILIE- ROMAGNE	20.684	120,8	3.011	234,8	604	376,2	102	204,5	24.401	936,4
VENETIE	32.314	184,5	3.198	253,2	516	293,0	38	164,1	36.066	894,8
PIEMONTE	16.598	108,1	2.385	188,4	573	338,9	70	161,1	19.626	796,6
LATIUM	13.263	72,5	705	53,9	192	119,8	93	387,5	14.253	633,6
MARCHES	7.865	46,4	1.199	98,8	573	362,5	42	105,2	9.679	612,8
SICILE	13.959	79,1	857	65,9	268	193,7	62	263,5	15.146	602,2
TOSCANE	12.673	76,0	1.146	92,6	229	142,1	23	54,3	14.071	365,1
ABRUZZES	5.209	37,1	541	45,4	212	156,6	39	76,6	6.001	315,6
SARDAIGNE	11.258	60,1	334	25,7	104	63,7	43	118,3	11.739	267,8
CAMPANIE	6.929	41,2	532	40,7	112	67,9	34	117,0	7.607	266,8
TRENTIN-HAUT-ADIGE	11.062	77,4	1.607	111,0	148	65,0	2	3,5	12.819	257,0
OMBRIE	5.638	31,8	601	42,2	203	139,3	17	35,4	6.459	248,8
FRIOUL-VENETIE JULIENNE	13.458	78,3	1.054	75,3	65	39,5	11	35,0	14.588	228,1
CALABRE	6.148	37,2	386	28,1	100	50,9	16	36,6	6.650	152,8
BASILICATE	2.092	14,4	603	34,6	157	92,5	3	8,0	2.855	149,6
MOLISE	953	6,7	120	9,2	50	38,1	9	28,6	1.132	82,6
LIGURIE	2.460	13,1	153	11,2	27	14,2	3	4,2	2.643	42,6
VALLEE D'AOSTE	695	4,9	51	3,7	1	0,4	-	-	747	9,1
Total ITALIE	231.980	1.369,2	24.353	1.866,6	6.043	4.029,4	728	2.275,3	270.104	10.540,5

# L'électricité renouvelable en Italie

## L'évolution de la capacité des centrales à énergie renouvelable de 2000 à 2010

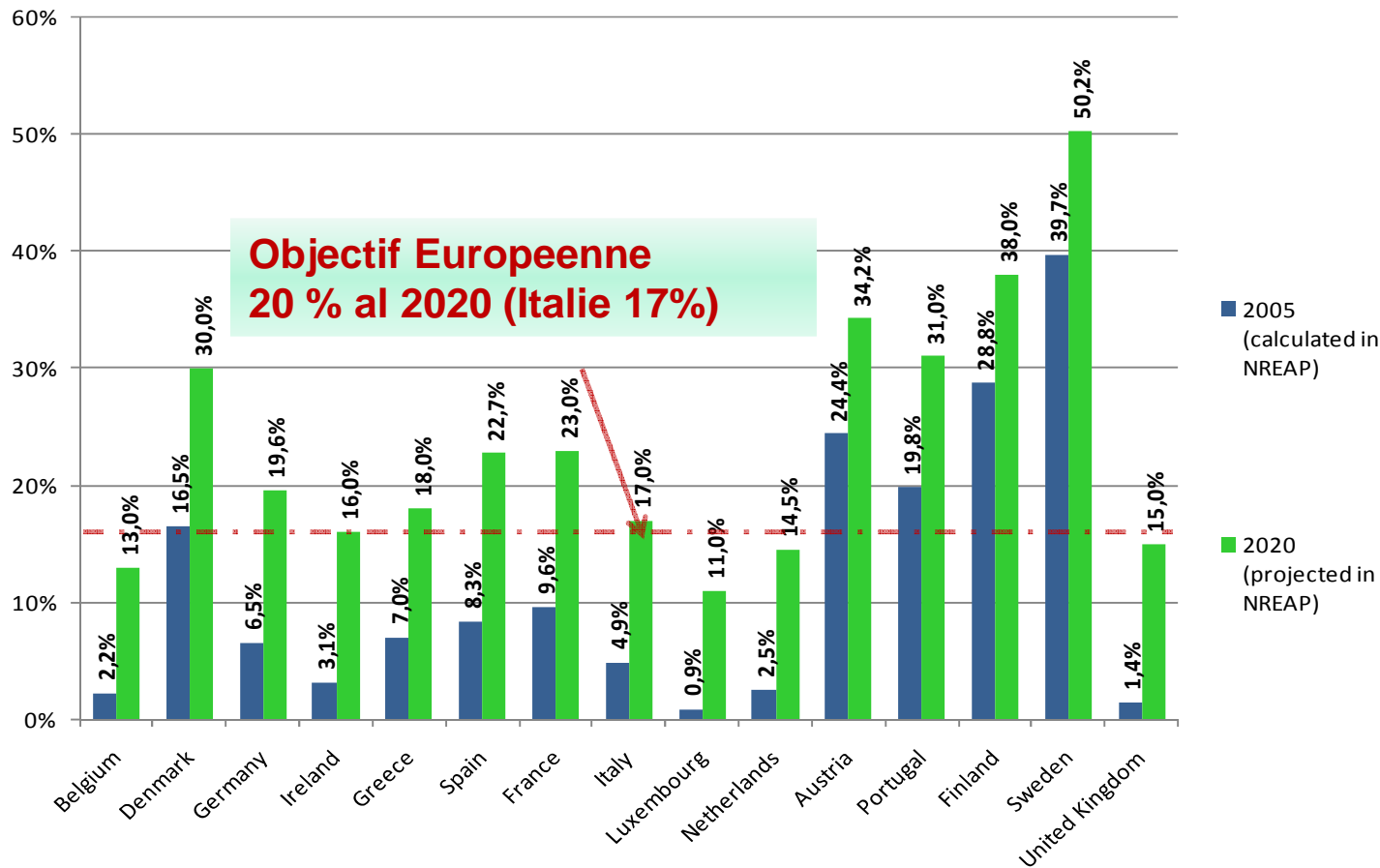


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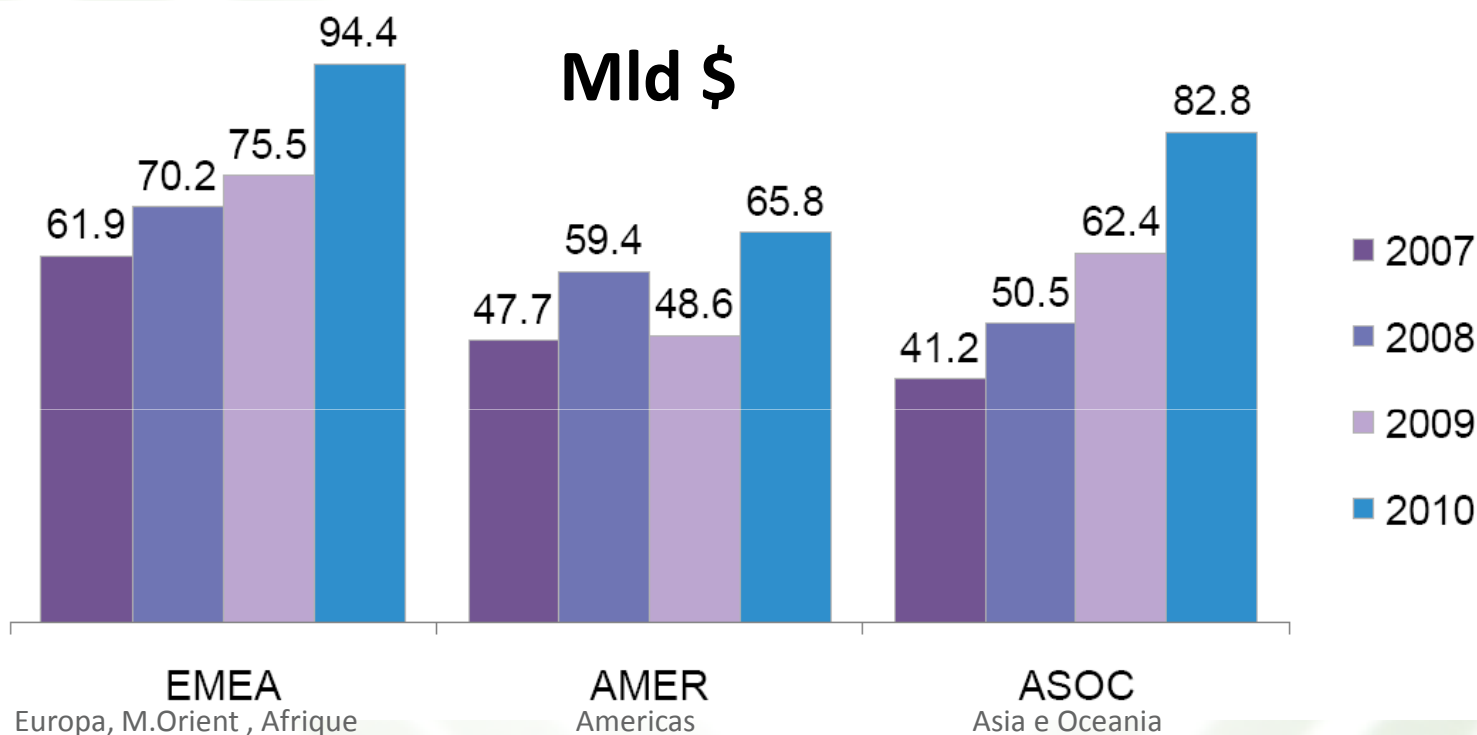
## Objectif italienne en matière d'énergies renouvelable



**NREAP : National Renewable Energy Action Plan**

**PAN: Plan d'Action National en matière de énergies renouvelables**

## Le nouveaux investissements dans la “clean energy” sont en croissance dans le monde



- **Total 2010 is \$243 mld +30% over 2009**
- **Boom in Far East**
- **Small distributed capacity**

merci pour votre attention



- **GSE's promotion of RES industry: *CORRENTE***
- **Italian Renewable energy current situation**

***Dr. Alberto Jr. Pela***



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**RICERCA RAPIDA FRA LE AZIENDE**

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**I TAG PIÙ CERCATI**

Energia Solare Biomasse Energia Eolica  
Fotovoltaico cristallino Energia Idrica Servizi Finanziari Energia Geotermica Rifiuti solidi urbani Solare termico Biogas

TUTTO (27)

**IN PRIMO PIANO**

**Scopri Corrente!**



Il nuovo video che presenta l'iniziativa di GSE, Corrente. Fateci sapere se vi piace!

07 mar 2011, 17:56
Inviato da: GSE SpA - Gestore dei Servizi Energetici
(35) Mi Piace
Condividi

**PIU' RECENTI**



GSE SpA - Gestore dei Servizi Energetici ha pubblicato una nuova news

**Sudafrica: la nuova frontiera per le energie rinnovabili**

Il Sud Africa come realtà di business ed opportunità di investimento per le imprese che operano nel settore delle energie rinnovabili Leggi l'articolo

Estero, Capitali, Energie, Eolico, Solare, Idrico, Geotermico, Biomasse

23 mar 2011, 17:27
Inviato da: GSE SpA - Gestore dei Servizi Energetici
(6) Mi Piace
Condividi

**ANSA** | Ambiente & Energia

12:38 | 24 Mar  
Giappone: radioattività nube e minima

10:11 | 24 Mar  
Nucleare: Prestigiacomo, l'Agenzia va avanti

20:43 | 23 Mar  
Benzina: tra accisa e Iva il fisco pesa per metà del prezzo

**twitter**


SEGUICI

**@gsecorrente**

Visualizzazione interattiva della General Electric. Quanto CO2 è creato da...? - <http://bit.ly/e340IZ> #ge #rinnovabili

21 mar 10:31

La Germania ha scelto "Puntiamo su sole e vento" - <http://t.co/6VGi7Sc> via @repubblicait

18 mar 09:16

<http://corrente.gse.it>

- 16 -

- ✓ CORRENTE is a project created by GSE - and open to voluntary participation by renewable energy operators
- ✓ CORRENTE is a functional tool to improve the sector chain visibility and a systematic way to introduce the operators into the international markets
- ✓ CORRENTE is a NETWORK for the OPERATORS
- ✓ CORRENTE is devoted to the Italian renewable energy operators:
  - INDUSTRIES
  - EPC Contractors
  - Energy producers from Renewables
- ✓ CORRENTE is becoming an important showcase giving visibility to our country's products and services and it is providing institutions with the necessary insights to best support the participating companies in their development on the global market of renewables

**Dimensional growth**

Encourage the creation of *consortia* or the aggregation of too small firms

**Technological innovation**

Investment in R&D by taking into account the impact on the Italian industrial system and encouraging interaction between research, business and finance

**Growth in the Developing Countries**

Take advantage of the geographical position of Italy, focusing on the Balkans and Mediterranean area and acting abroad in a coordinated and systemic way

PARTNERS and INITIATIVES



*1° ITALIAN-SOUTH AMERICAN RENEWABLE  
ENERGIES FORUM - Rome 15th September 11*



*FOREIGN INVESTMENTS IN ITALIAN  
RENEWABLE ENERGIES COMPANY  
SUPPORT Rome March – July 2011*



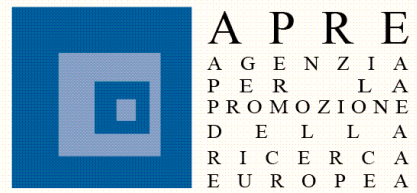
*ITALIAN-AUSTRALIAN MATCHMAKING  
EVENT, Cagliari June 2011*



*RENEWABLE ENERGY ITALIAN EXPO at  
WORLD FUTURE ENERGY SUMMIT 2011, Abu  
Dhabi January 2011*



*COOPERATION ON FUTURE ENERGY CITY PROGRAMMES TO SUPPORT ITALIAN COMPANIES PARTICIPATION, Masdar City 2011*



*INFO-DAY : TRAINING ON EU ENERGY PROGRAMME PARTICIPATION 2012, Rome 3th October 2011*



*«CORRENTE PER IL SUDAMERICA» INITIATIVE SUPPORTING THE ITALIAN COMPANIES TO RECEIVE FINANCE AID BY IDB, June-September 2011*



## **MAIN IMPORTANT TARGETS:**

- 1) EU Directive 2009/28/CE calls for a growth in green-energy from 17 to 30 percent of total energy consumption by the end of 2020**
  
- 2) The 6.5 percent GHGs reduction with respect to 1990 levels under the Kyoto Protocol**
  
- 3) The Italian National Renewable Action Plan calls for a 29% increase in consumption from renewable energy by 2020**

**The share of RES (of total gross electricity production) is 23 percent (69,300 GWh produced)**

- The most important renewable energy source in Italy is **hydropower**. It increased by 18 percent from 41,623 GWh in 2008 to 49,137 GWh in 2009
  - The total onshore **wind** power installed in Italy has increased by 30 percent in 2009, with 1.1 GW of new power capacity installed, consequently wind energy production increased from 4,861 GWh to 6,543 GWh
- **Biomass** energy production grew from 5,966 GWh to 7,631 GWh

***Solar energy production was the fastest growing renewable energy source with an increase from 193 GWh to nearly 676 GWh, a growth of 250 percent.***

*Moreover..*

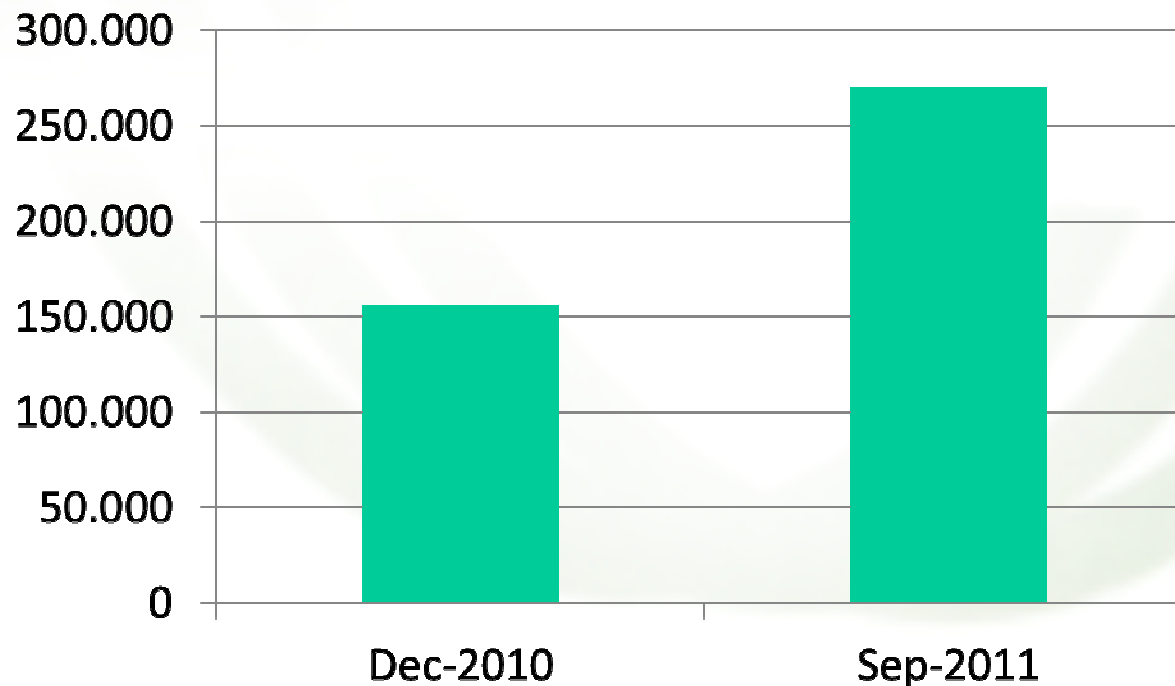
*Italy hosts the largest solar PV park in Europe since November 2010 a 72 MW Power Plant.*

Italy is the fifth most attractive market for renewable energy Projects (*Ernst and Young, Renewable Country Attractiveness Indices, 2010*).

***At the end of 2010, the total number of PV power plants installed was 155.977***

***...Currently the PV plants amount at 270.000 units (total power: 10 GW)***

***Total PV Plants installed***



**The development of the renewable energy sector in Italy is supported by:**

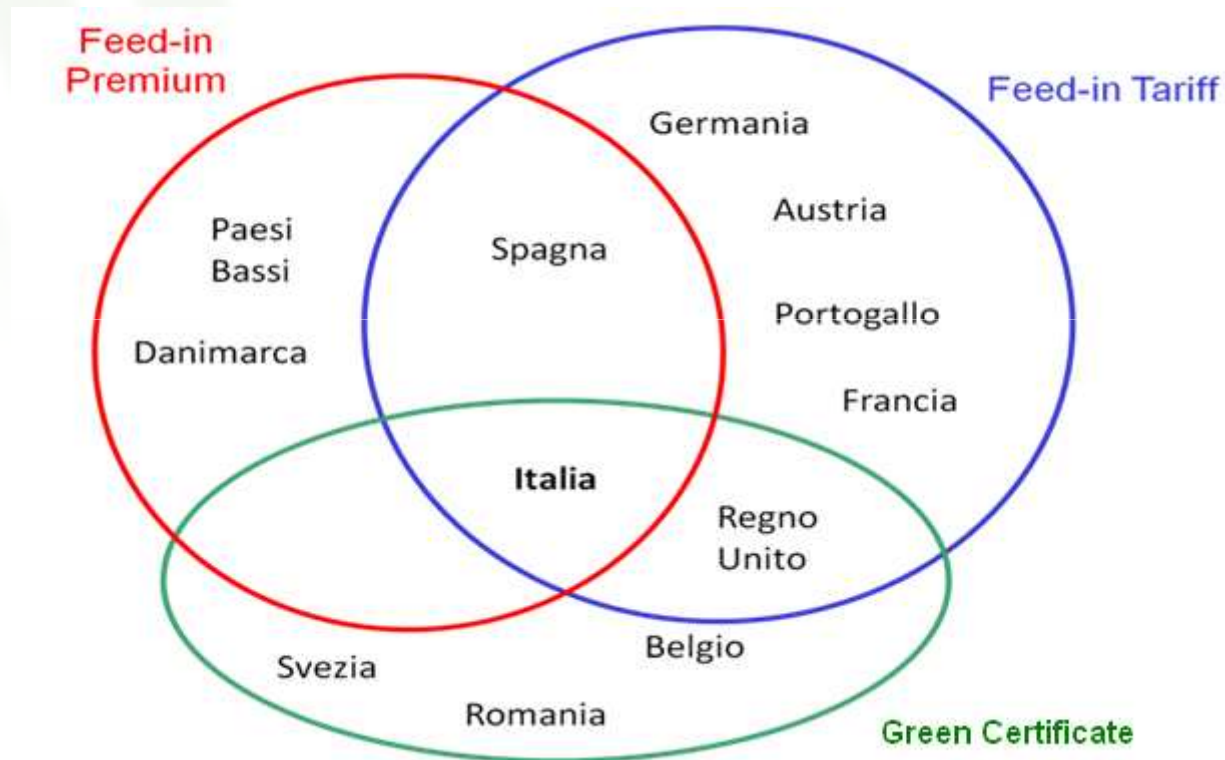
- The Italian National Renewable Energy Action Plan
- The feed-in tariffs and “Green Certificates” systems
- Government incentives & local authorities’ measures and subsidies
- New investments in the research and technology areas

## RES support mechanisms

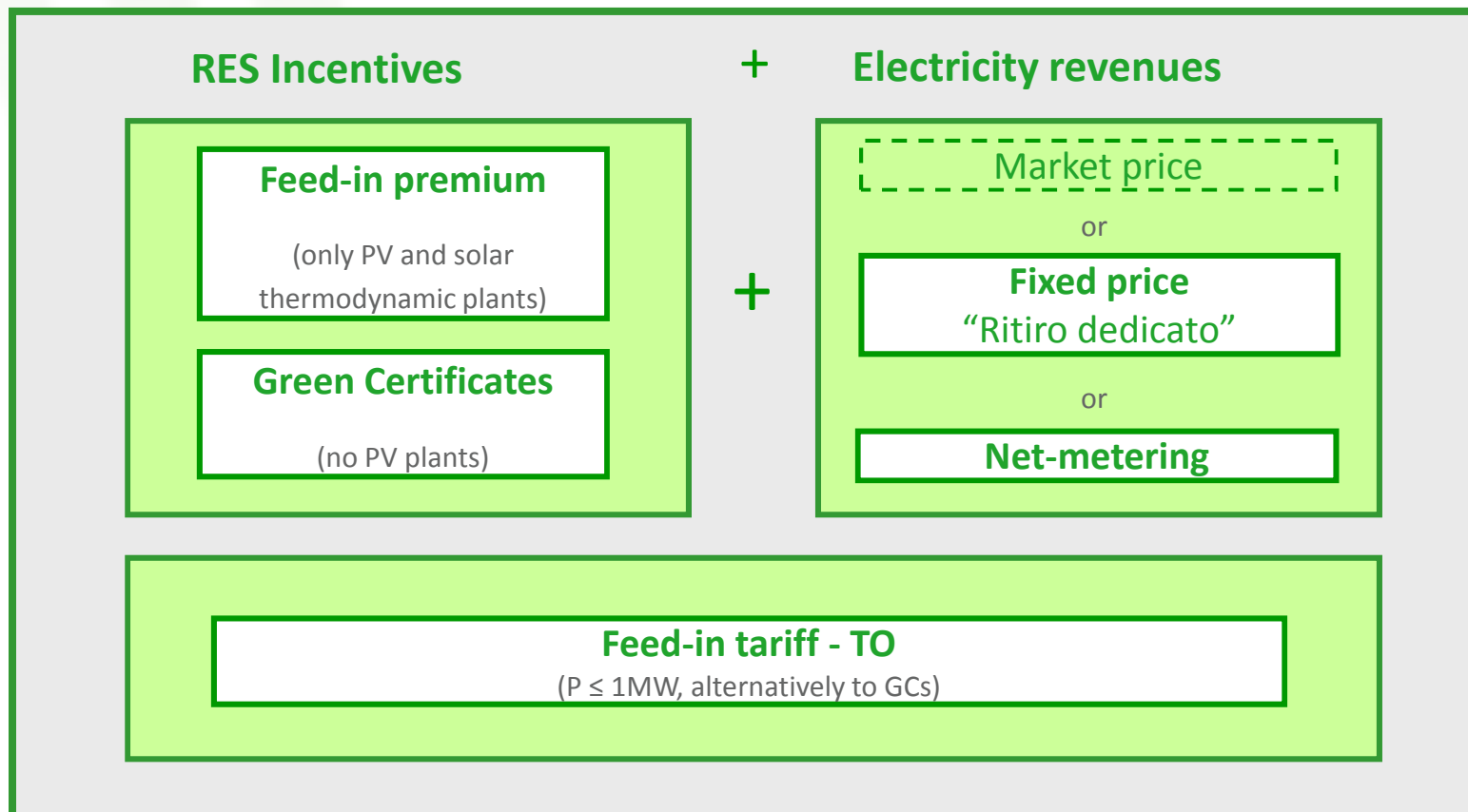
*Maurizio Cuppone*

# Principal RES support mechanisms

Renewables energy sources incentives in Luxemburg: FIT (wind, small hydro, biogas, PV), Investments subsidies, heat premium (support for RES heating), support for biofuels, ecc..



## General Framework



# Support Schemes managed by GSE



## Feed-in tariffs

### Feed In Tariff (TO)

- ✓ Energy's Purchase at incentivized prices

**RECOGNITION OF THE INCENTIVE**  
On energy injected into the grid

**PRODUCER'S REVENUE**  
Sell energy to the GSE

**INCENTIVE COVER CHARGE**  
Directly to end users through tariff component A3

## Feed-in premium

### Feed In Premium

- ✓ Grant a prize to the energy produced by photovoltaic and thermodynamic which integrate the selling price of EE

**RECOGNITION OF THE INCENTIVE**  
On energy produced

**PRODUCER'S REVENUE**  
GSE's contribution + value of energy sold

**INCENTIVE COVER CHARGE** Directly to end users through tariff component A3

## Quota obligation

### Green Certificate (GC)

- ✓ Producers and importers must feed into the grid an amount of renewable energy equal to the x % (6,05 % for 2010) of conventional energy produced or imported the year before

**RECOGNITION OF THE INCENTIVE**  
On energy produced

**PRODUCER'S REVENUE**  
Selling GC + value of energy sold

**INCENTIVE COVER CHARGE**  
Indirectly by end users through market energy price

# The Green Certificates mechanism

- It is based on a **quota obligation** on electricity from conventional sources **for each producer/importer** (EE produced/imported above 100 GWh of each producer/importer)
- Producers and importers **must feed into the grid an amount of renewable energy** equal to the x % (6.05 % for 2010) of conventional energy produced or imported the year before (**obligations are up-graded to 0.75% per year**)
- Producers and importers can fulfill their obligation by means of GC issued in favour of their own renewable electricity production or purchased from other producers
- The support is granted over **15 years**
- Green Certificates have a validity of **3 years**
- 1 GC is issued for each **MWh produced** multiplied for a **“k” factor** related to the source used
- The producers during the support period can only switch once to the **TO mechanism** (if power < 1MW) and contrary
- Green Certificates can be sold or purchased through:
  - **Bilateral agreements**
  - **Trade**

# The Feed in tariff system (TO)

- **Small plants** may obtain an “All-inclusive Tariff”, **alternatively** to Green Certificates
- May be incentivized through the feed-in tariff system only renewable power plants, **except for PV plants** with a total capacity  $\leq$  **1MW** and  $\leq$  **200kW** for wind plants
- The amount of tariff is **differentiated by source** and will be **updated every three years** through specific ministerial decrees
- The support is granted over **15 years**

**Power plants permisison:** to get FIT, the owner of RES plants must request and obtains the permission. The permission is awarded by a technical team, is ruled by a specific procedure, published on GSE’s web site, and it is based on silence approval.

**FIT granting:** GSE transfer the support (*ex post, on monthly basis*) on demand of the producers. The producers during the support period can only once switch to the GC mechanism and vs.

# The Feed in tariff system (TO)

	<b>Source</b>	<b>Tariff (€ cent/kWh)</b>
<b>1</b>	<b>Wind &lt; 200 kW</b>	<b>30</b>
<b>2</b>	<b>Solar</b>	<b>FIP</b>
<b>3</b>	<b>Geothermal</b>	<b>20</b>
<b>4</b>	<b>Wave &amp; Tidal</b>	<b>34</b>
<b>5</b>	<b>Hydro</b>	<b>22</b>
<b>6</b>	<b>Biomass, biogases and bioliquids (vegetal oil) when complying with EU Regulation 73/2009</b>	<b>28</b>
<b>8</b>	<b>Landfill gas, sewage treatment plant gas, biogases and bioliquid</b>	<b>18</b>

## Electricity sale

In addition to the incentives granted to the total electricity production (*feed-in-premium for photovoltaic power plants or feed-in tariff and GCs for other kinds of plants*), the electricity fed into the grid can be sold by the producers either through direct sale on IPEX (Italian Power Exchange) or indirectly through the “dedicated” electricity intake or, otherwise, for plans of capacity up to 200 kW, through the “net metering” service

**GSE** manages the:

- “dedicated electricity intake” service
- “net metering” service

It is always possible to switch from one service to the other one

- GSE is the implementing body in charge of **qualifying plants**, conducting **inspections** and **granting the support**
- Under the scheme, a feed-in premium is paid **on top of the price of sale of electricity** over a period of **20 years**
- The **minimum** requested **size** of PV plant is **1 kW**
- In order to receive the premium, the plants must be **connected to the grid** (or to small isolated grids) and each plant must have a **single point of connection**

## *Targets and limits to capacity*

The target of total domestic PV capacity to be installed by 2016 is set at 23 GW

There are limits of incentive defined according to the yearly cost of photovoltaic grants.

When the maximum total cost of each period (six month) is reached the tariffs are reduced.

Categories of plants:

- a. PV plants (*small and large*)
- b. PV plants architecturally integrated with innovative characteristics
- c. CPV plants

## *Definitions*

### *Small plants:*

- 1) PV plants on building with a capacity up to 1 MW
- 2) Other plants with capacity up to 200 kW working under net metering system
- 3) PV plants with any kind of capacity installed on building or lands sites of the Public Administration

*Large plants:* plants different from Small plants

## *Register for Large PV plants*

Large plants up to December 2012, are obliged to be enrolled in the register of GSE and are eligible to incentives if the following conditions are respected:

- are enrolled in the register in a position where the limit of cost is not reached;
- certification of end of work of the plant arrives to GSE within 7 months from the publication of the list of plants; this deadline is postponed to 9 months for plants with a capacity over 1 MW

GSE sets the list of plants enrolled in the register and publish it on its web site according to the following criteria to be applied by priority:

- a) precedence of the date of commissioning of plants
- b) precedence of the date of end of works
- c) precedence to the date of the authorization
- d) lower capacity of the plant
- e) precedence to the date of request for enrolling in the register

## *Comparison between the two periods*

### Temporary period 2011-2012

- feed-in premium, that is the *incentive, added to the value of the energy produced\**
- Limit of cost to *Large plants* installation
- Register for *Large plants*

### Period 2013 - 2016

- feed-in tariff, that is *all inclusive (on the energy delivered to the grid); for the self consumed quota there is a specific tariff*
- Limits to total costs over six months; once reached, the tariff is further reduced;
- No limits for *Large plants*

## *The decree establishes different bonuses for special types and applications*

\* Electricity sale or net-metering system (on-the-spot trading service)

# Thank you for your attention

[www.gse.it](http://www.gse.it)

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